Dingli Wang

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Education

University of California, Riverside — Ph.D. in Economics — Expected June 2027
Dissertation committee: Tae-Hwy Lee (Chair), Donggyu Kim, Ruoyao Shi.

Boston University — M.A. in Economics — 2020

Tianjin University of Finance and Economics — B.S. in Economic Statistics — 2018

Research Fields

Econometrics; Financial Econometrics; Forecasting; Machine Learning and AI in Economics

Job Market Papers

Robust Replacement of Human Decision Makers under Distribution Shift

Revise and Resubmit, Journal of Econometrics — Paper | Slides

This paper studies when a machine learning algorithm should replace a human decision maker under distribution shift. We infer each human's error rates from past decisions, assuming that they stay the same on future cases, while the data seen by the algorithm may shift within a Wasserstein ball. For each threshold, we compute the algorithm's worst false positive and true positive rates over the ball, which gives a worst-case ROC curve. We replace a human only if some point on this curve is, with high posterior probability, at least as good as the human in both rates. We show that the estimated curve converges uniformly and bound the welfare loss from replacement. We also compare the rule with an infeasible benchmark that knows the deployment distribution and each human's error rates and sets the algorithm's false positive rate equal to the human's. Relative to this benchmark, choosing the threshold with the highest posterior probability can leave a welfare loss that does not vanish with more data. In simulations, robust rules replace fewer humans than a rule that ignores shifts, giving up some gains without shifts but losing less after large shifts.

Median-Anchored Adjustment of Joint VaR–ES Forecasts (with Tae-Hwy Lee)

Under Review, Journal of Business & Economic Statistics — Paper | Slides

Risk managers often work with a fitted forecasting model they cannot replace even when its tail forecasts need adjustment. We propose a median-anchored rule that multiplies the distances from the fitted median to Value-at-Risk (VaR) and Expected Shortfall (ES) by a common positive multiplier. The rule preserves VaR–ES ordering, and minimizing VaR check loss gives a closed-form weighted-quantile estimator. We establish consistency, give an asymptotic distribution under high-level conditions accounting for baseline estimation, and derive a VaR coverage-error bound at the forecast origin. When the same multiplier correctly adjusts both VaR and ES, the adjusted pair has lower conditional zero-homogeneous Fissler–Ziegel (FZ0) risk at that origin. Monte Carlo experiments examine this condition and several forms of misspecification. In rolling S&P 500 forecasts the adjustment lowers FZ0 loss in all four GARCH cells, each pairwise significant, with the largest and most robust gain, 10.4%, for Gaussian GARCH at the 1% tail; the 5% gains do not survive the most conservative family-wise adjustments. A quantile-regression baseline marks the boundary: when the fitted tail is already flexible, one multiplier adds little. Filtered historical simulation quantifies what standardized residuals and conditional scales add when available.

Other Research Papers

When Should Forecasts Be Equally Weighted? Signal Recovery and Estimation Costs
Under Review, International Journal of Forecasting
Compares equal and estimated forecast-combination weights through signal recovery and estimation costs.

Adversarial Density Forecast for Macro-financial Risks (with Tae-Hwy Lee)
Develops conditional generative density forecasts for short macroeconomic samples.

Conference Presentations and Seminars

Econometrics Seminar, UC Riverside	November 2026
Midwest Econometrics Group (MEG), Cincinnati	October 2026
International Association for Applied Econometrics (IAAE), Lisbon	June 2026
Asian Meeting of the Econometric Society (AMES), Hong Kong	June 2026
Econometrics Seminar, UC Riverside	April 2026

Teaching Experience

University of California, Riverside

Instructor of Record

ECON 182 — Trade, Globalization, and Development	Summer 2026
ECON/BUS 178 — International Trade	Summer 2025
Instructor — Statistics Camp (Ph.D.)	Summer 2026

Teaching Assistant

ECON 205A — Econometric Methods I (Ph.D.)	Fall 2026
ECON 205C — Econometric Methods III (Ph.D.)	Spring 2026
ECON 107 — Introductory Econometrics I	Spring 2025
ECON 101 — Statistics for Economics	2023–2026 (8 terms)
ECON 003 — Introduction to Microeconomics	Winter 2023
ECON 002 — Introduction to Macroeconomics	2022–2024 (4 terms)

Fellowships and Awards

Outstanding Teaching Assistant Award, University of California, Riverside	2026
Dean's Distinguished Fellowship, University of California, Riverside	2021–2026
High Pass, Ph.D. Qualifying Examination, University of California, Riverside	2022
First Prize, Contemporary Undergraduate Mathematical Contest in Modeling	2016

Computing and Languages

Computing: Python, R, Stata, EViews, LaTeX
Languages: English (fluent); Mandarin Chinese (native)

References

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